National Institute of Environmental Health Sciences

The ecological dimensions of vector-borne disease research and control

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Abstract:

Alarming trends in the resurgence of vector-borne diseases are anticipated to continue unless more effective action is taken to address the variety of underlying causes. Social factors, anthropogenic environmental modifications and/or ecological changes appear to be the primary drivers. The ecological dimension of vector-borne disease research and management is a pervasive element because this issue is essentially an ecological problem with biophysical, social, and economic dimensions. However there is often a lack of clarity about the ecological dimension, the field of ecology (e.g. role, limitations), and related concepts pertinent to ecosystem approaches to health. An ecological perspective can provide foresight into the appropriateness of interventions, provide answers to unexpected vector control responses, and contribute to effective management solutions in an ever-changing environment. The aim of this paper is to explore the ecological dimension of vector-borne diseases and to provide further clarity about the role of 'ecological thinking' in the development and implementation of vector control activities (i.e. ecosystem approaches to vector-borne diseases).

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Fly-borne Disease, General Vectorborne, Mosquito-borne Disease, Tick-borne Disease

Fly-borne Disease: Trypanosomiasis

Mosquito-borne Disease: Dengue

Resource Type:

format or standard characteristic of resource

Research Article, Review

Timescale:

time period studied

Time Scale Unspecified